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ABSTRACT

The United States Training and Employment Service General Aptitude Test Battery (GATB), first published in 1947, has been included in a continuing program of research to validate the tests against success in many different occupations. The GATB consists of 12 tests which measure nine aptitudes: General Learning Ability; Verbal Aptitude; Numerical Aptitude; Spatial Aptitude; Form Perception; Clerical Perception; Motor Coordination; Finger Dexterity; and Manual Dexterity. The aptitude scores are standard scores with 100 as the average for the general working population, and a standard deviation of 20. Occupational norms are established in terms of minimum qualifying scores for each of the significant aptitude measures which, when combined, predict job performance. Cutting scores are set only for those aptitudes which aid in predicting the performance of the job duties of the experimental sample. The GATB norms described are appropriate only for jobs with content similar to that shown in the job description presented in this report. A description of the validation sample is included. (AG)

ED 065637

TECHNICAL REPORT

ON

STANDARDIZATION OF THE GENERAL APTITUDE TEST BATTERY

FOR

CLASSIFIER, LAUNDRY 7-57.012

B-571 S-291

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EDUCATION & WELFARE
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U. S. Employment Service
in Cooperation with
Arizona, Colorado, Nevada, Oregon, Utah, Washington,
and Wisconsin State Employment Services

Key State Agency - Utah

February 1964

GATB # 2482

STANDARDIZATION OF THE GENERAL APTITUDE TEST BATTERY

FOR

CLASSIFIER, LAUNDRY 7-57.012

B- 571

Summary

The General Aptitude Test Battery, B-1002, was administered to a final sample of 52 individuals employed as Classifiers, Laundry 7-57.012 at various plants of four linen supply companies. On the basis of mean scores, standard deviations, correlations with the criterion, job analysis data, and their combined selective efficiency, Aptitudes Q-Clerical Perception and M-Manual Dexterity were selected for inclusion in the final test norms.

GATB Norms for Classifier, Laundry 7-57.012, B-571

B-1001			B-1002		
Aptitude	Tests	Minimum Acceptable Aptitude Score	Aptitude	Tests	Minimum Acceptable Aptitude Score
Q	CB-1- B	65	Q	Part 1	70
M	CB-1- M CB-1- N	90	M	Part 9 Part10	85

Effectiveness of Norms

The data in Table IV indicate that only 60 percent of the non-test-selected workers used for this study were good workers; if the workers had been test-selected with the above norms, 69 percent would have been good workers. 40 percent of the non-test-selected workers used for this study were poor workers; if the workers had been test-selected with the above norms, only 31 percent would have been poor workers.

TECHNICAL REPORT

I. Purpose

This study was conducted to determine the best combination of aptitudes and minimum scores to be used as norms on the General Aptitude Test Battery for the occupation of Classifier, Laundry 7-57.012.

II. Sample

The General Aptitude Test Battery, B-1002, was administered during the period March 14, 1961 to March 5, 1963 to 61 females and one male employed as Classifier, Laundry 7-57.012. The name and location of each company from which the sample was obtained, the form of the GATB used and number of employees tested at each company plant, and the number of tested employees at each plant not included in the final sample are as follows:

Name of Company	Location	Number Tested	GATB Form	Number Eliminated
American Linen Supply Co.	Salt Lake City, Utah	9	A	1
	Ogden, Utah	3	A	0
	Milwaukee, Wisconsin	13	A	7
	Denver, Colorado	7	A	1
	Phoenix, Arizona	4	A	0
	Portland, Oregon	7	A	1
	Las Vegas, Nevada	9	A	0
Spokane Linen Supply Co.	Spokane, Washington	4	A	0
Milwaukee Linen Supply Co.	Milwaukee, Wisconsin	4	B	0
Mickey Linen Company	Milwaukee, Wisconsin	2	B	0
		62		10

Of the 62 tested workers, 10 were eliminated from the final sample; one because criterion ratings were not obtained, two because of incorrect rating procedure, two because they were working supervisors who made the criterion ratings, and five because of obvious difficulty in taking the GATB. The final sample consists of 51 females and one male.

Supervisors in each plant referred to a master job description to determine if job duties were similar. No major variances in job duties were found. No strict age, education, or experience requirements were adhered to at any of the plants in selecting individuals for employment, but applicants with at least an eighth-grade education are preferred. Pre-employment tests played no significant role in employee selection at any of the plants, and no special interviewing techniques were used. Workers are trained on-the-job and a minimum of two months of experience is necessary to reach job proficiency. All workers in the final sample are considered experienced.

TABLE I

Means (M), Standard Deviations (σ), Ranges, and Pearson Product-Moment Correlations with the Criterion (r) for Age, Education, and Experience

N = 52	M	σ	Range	r
Age (years)	40.2	11.6	18-59	.038
Education (years)	10.1	1.8	7-13	-.074
Experience (months)	69.0	83.8	2-360	.136

III. Job Description

Job Title: Classifier, Laundry 7-57.012

Job Summary: Removes incoming, soiled industrial and commerical linen from laundry bags and allows contents of bag to drop on counting table. Identifies flat articles and garments and simultaneously sorts and counts these according to style number. Enters count by article in appropriate space for all linen returned by each customer on customer's invoice or multiple bag list and files document by account number. Places sorted and counted articles on appropriate soiled linen belt or in designated soiled linen basket for dispatch to washroom.

Work Performed:

Readies soiled linen for counting: Positions over counting table full bags of incoming, soiled industrial and commercial linen containing customer's invoice or multiple bag list by pulling cord which releases bag stop on gravity feed overhead soiled linen conveyer. Opens drawstring on laundry bag which is hanging on conveyer in upside down position. Removes contents from bag and allows to drop on counting table; then removes customer's invoice or multiple bag list from pocket of laundry bag and places on top of invoice file. Pulls cord to release bag stop on overhead soiled linen conveyer, and with other arm pushes empty bag from over counting table.

Sorts and counts soiled linen: Simultaneously identifies, sorts and counts flat articles and garments according to style number. Checks customer account number on garments against invoice or multiple bag list. Watches for garments which have faded account and style numbers. Sorts and counts these items as usual, but separates them from other articles and bundles them with string. Attaches multiple bag list containing count and style data to bundle and places bundle in special soiled linen basket for re-marking. Re-counts flat articles and garments if in doubt about first count. Places sorted and counted articles on appropriate soiled linen belt or in designated soiled linen basket for dispatch to washroom.

Posts customer account data: Enters count, by article, for all linens returned by each customer in appropriate space on customer's invoice or multiple bag list. Checks customer account file when soiled item has an account number which does not agree with customer's invoice or multiple bag list. Locates name of correct customer and prepares invoice for this account. Files customer's invoices and multiple bag lists by account number for submission to billing department.

Keeps work area clean: Uses hand brush and rags to remove waste particles, oil, and hair from counting table. Keeps floor space clear of foreign objects.

IV. Experimental Battery

All the tests of the GATB, B-1002, were administered to the sample group. (For form of GATB used see information in "Sample" section of this report.)

V. Criterion

The criterion data were collected during the period June 7, 1961 to March 11, 1963 and consisted of two sets of independent ratings made by the first-line supervisor using a descriptive rating scale designed to measure job proficiency of Laundry Classifiers. A period of at least two weeks elapsed between the first and second ratings. The rating scale consisted of five items covering different aspects of job performance, with four alternatives for each item. Weights of one through four, indicating the degree of job proficiency attained, were assigned to the alternatives. A reliability coefficient of .87 was obtained for the criterion. Therefore, the two sets of ratings were combined resulting in a distribution of final criterion scores of 12-39, with a mean of 29.0 and a standard deviation of 6.3.

VI. Qualitative and Quantitative Analyses

A. Qualitative Analysis

On the basis of the job analysis data, the following aptitudes were rated "important" for success in this occupation:

Form Perception (P) - required in identifying laundry marks and flatwork laundry.

Clerical Perception (Q) - required in checking number of garments against invoices, in entering count on invoice, and in checking customer's account file and filing invoices.

Motor Coordination (K) - required in sorting laundry items and placing appropriate items on conveyer belt.

Manual Dexterity (M) - required in lifting and positioning bags of laundry, sorting laundry items, and in tying bundles and placing linen and garments on conveyer or into baskets.

On the basis of the job analysis data, Verbal Aptitude (V) was rated irrelevant for success in this occupation.

B. Quantitative Analysis:

TABLE II

Means (M), Standard Deviations (σ), and Pearson Product-Moment Correlations with the Criterion (r) for the Aptitudes of the GATB; N = 52

Aptitudes	M	σ	r
G-Intelligence	82.2	17.0	.092
V-Verbal Aptitude	88.2	16.9	.086
N-Numerical Aptitude	78.3	18.8	.104
S-Spatial Aptitude	83.6	15.2	-.001
P-Form Perception	81.1	17.8	.119
Q-Clerical Perception	88.6	14.5	.167
K-Motor Coordination	93.1	17.5	.195
F-Finger Dexterity	85.6	18.1	.141
M-Manual Dexterity	93.8	18.5	.136

C. Selection of Test Norms:

TABLE III

Summary of Qualitative and Quantitative Data

Type of Evidence	Aptitudes								
	G	V	N	S	P	Q	K	F	M
Job Analysis Data									
Important					X	X	X		X
Irrelevant		X							
Relatively High Mean		X				X	X		X
Relatively Low Sigma						X			
Significant Correlation with Criterion									
Aptitudes to be Considered for Trial Norms						Q	K		M

Trial norms consisting of various combinations of Aptitudes Q, K and M with appropriate cutting scores were evaluated against the criterion by means of the Phi Coefficient technique. A comparison of the results showed that B-1002 norms consisting of Q-70 and M-85 had the best selective efficiency.

VII. Validity of Norms

The validity of the norms was determined by computing a Phi Coefficient between the test norms and the criterion and applying the Chi Square test. The criterion was dichotomized by placing 40 percent of the sample in the low criterion group because this percent was considered to be the unsatisfactory or marginal workers.

Table IV shows the relationship between test norms consisting of Aptitudes Q and M with critical scores of 70 and 85, respectively, and the dichotomized criterion for Classifier, Laundry 7-57.012. Workers in the high criterion group have been designated as "good workers" and those in the low criterion group as "poor workers."

TABLE IV

Validity of Test Norms for Classifier, Laundry 7-57.012
(Q-70 and M-85)

N = 52	Non-Qualifying Test Scores	Qualifying Test Scores	Total
Good Workers	9	22	31
Poor Workers	11	10	21
Total	20	32	52

Phi Coefficient = .235
χ^2 = 2.860
P/2 < .05

The data in the above table indicate a significant relationship between the test norms and the criterion for the sample.

VIII. Conclusions

On the basis of the results of this study, Aptitudes Q and M with minimum scores of 70 and 85, respectively, have been established as B-1002 norms for Classifier, Laundry 7-57.012. The equivalent B-1001 norms consist of Q-65 and M-90.

IX. Determination of Occupational Aptitude Pattern

The data for this study did not meet the requirements for incorporating the occupation studied into any of the 35 OAP's included in Section II of the Guide to the Use of the General Aptitude Test Battery, January 1962. The data for this sample will be considered for future groupings of occupations in the development of new occupational aptitude patterns.